

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/048433 A2

(51) International Patent Classification⁷: H02J 3/00

(21) International Application Number: PCT/GB2004/004720

(22) International Filing Date: 8 November 2004 (08.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0326070.0 7 November 2003 (07.11.2003) GB

(71) Applicant (for all designated States except US): NEWAGE INTERNATIONAL LIMITED [GB/GB]; P.O. Box 17, Barnack Road, Stamford, Lincolnshire PE9 2NB (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): NAZAR, Al-Khayat

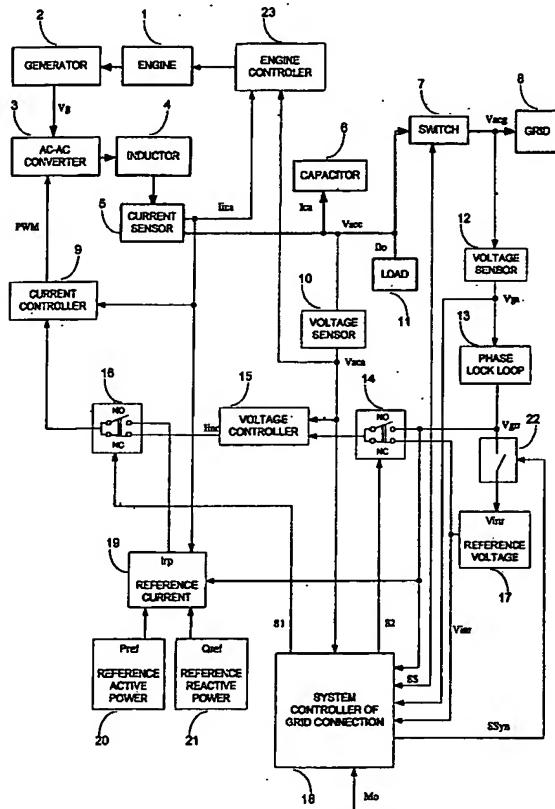
[GB/GB]; 19 Hilltop Drive, Oakham, Rutland, Leicestershire LE15 6NF (GB). WLODZIMIERZ, Koczara [PL/PL]; Institute of Control and Industrial Electronic ISE, P, Warsaw University of Technology, Ul. Koszykowa 75, 00-662 Warszawa (PL). EMILE, Ernest [PL/GB]; 7 Doughty Street, Stamford, Lincolnshire PE9 1UT (GB).

(74) Agents: EVERITT, Christopher, James, Wilders et al.; fj Cleveland, 40-43 Chancery Lane, London WC2A 1JQ (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

[Continued on next page]

(54) Title: AN AC POWER GENERATING SYSTEM



(57) Abstract: A method of controlling connection of an AC power output to a load (11) and to a power supply grid (8). The AC power output is produced by an AC power generating system which includes an AC/AC convertor (3) and which is independently operable to supply power to the load (11). Operation of the AC/AC convertor (3) for independent operation is controlled in accordance with a reference (Unr) which is generated within the system. In order to connect the AC power output to the power supply grid (8) in addition to supplying the load (11), the reference (Enr) which was derived from the AC power output voltage (Vacc) during independent operation is replaced by another reference (Irp) which is derived from the voltage (Vaccg) of the grid (8) so that the AC/AC convertor (3) is controlled by that other reference (Irp) when the AC power output is connected to the grid (8) as well as supplying the power required by the load (11). In the event of disconnection of the AC power output from the power supply grid (8) or loss of the grid voltage (Vaccg), the other reference (Irp) is replaced by the reference (Inr) that is derived from the AC power output voltage (Vacc) with which it overlaps in phase amplitude so that the AC power generating system operates independently and continues to supply the power required by the load (11) without interruption.



TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.